

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

- 1 1. (Original) A method for treating or protecting an animal against a microbe-
2 induced disease comprising the step of inhibiting DNA methyltransferase activity in said
3 microbe.
- 1 2. (Original) The method of claim 1 wherein said DNA methyltransferase is a
2 DNA adenine methyl transferase.
- 1 3. (Original) The method of claim 1 wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.
- 1 4. (Original) The method of claim 1 wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.
- 1 5. (Original) The method of claim 1 wherein said animal is a human patient.
- 1 6. (Original) The method of claim 1 wherein said microbe is a bacterium.
- 1 7. (Original) The method of claim 6 wherein said bacterium is a gram positive
2 bacterium.
- 1 8. (Original) The method of claim 7 wherein said gram positive bacterium is a
2 bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species, *Corynebacterium*
3 species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or *Streptomyces*
4 species.
- 1 9. (Original) The method of claim 6 wherein said bacterium is a gram negative
2 bacterium.

1 10. (Original) The method of claim 9 wherein said gram negative bacterium is a
2 bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella* species,
3 *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species, *Yersinia*
4 species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus* species,
5 *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter* species, *Vibrio*
6 species, or *Helicobacter* species.

1 11. (Original) The method of claim 6 wherein said bacterium is a bacterium of
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;
8 *Vibrio parahaemolyticus*; *Treponema pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1 12. (Original) A method of treating or protecting against a microbe-induced
2 disease in a mammal afflicted with said disease, or at risk of becoming afflicted with said
3 disease, comprising administering to said mammal a therapeutically effective dose of a methyl
4 transferase inhibitor.

1 13. (Original) The method of claim 12 wherein said DNA methyltransferase is
2 a DNA adenine methyl transferase.

1 14. (Original) The method of claim 12 wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.

1 15. (Original) The method of claim 12 wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.

1 16. (Original) The method of claim 12 wherein said animal is a human patient.

1 17. (Original) The method of claim 12 wherein said microbe is a bacterium.

1 18. (Original) The method of claim 17 wherein said bacterium is a gram
2 positive bacterium.

1 19. (Original) The method of claim 18 wherein said gram positive bacterium is
2 a bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species,
3 *Corynebacterium* species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or
4 *Streptomyces* species.

1 20. (Original) The method of claim 17 wherein said bacterium is a gram
2 negative bacterium.

1 21. (Original) The method of claim 20 wherein said gram negative bacterium is
2 a bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella*
3 species, *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species,
4 *Yersinia* species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus*
5 species, *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter*
6 species, *Vibrio* species, or *Helicobacter* species.

1 22. (Original) The method of claim 17 wherein said bacterium is a bacterium of
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;
8 *Vibrio parahaemolyticus*; *Treponema pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1 **23.** (Original) A method of reducing bacterial virulence, comprising contacting
2 bacteria with an agent that alters the bacteria's native level of DNA methyltransferase activity
3 thereby inhibiting virulence of the bacteria.

1 **24.** (Original) The method of claim **23** wherein contacting bacteria with an
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering
3 the bacteria's native level of methylation of adenine in a polynucleotide of said bacteria.

1 **25.** (Original) The method of claim **23** wherein contacting bacteria with an
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering
3 the bacteria's native level of methylation of adenine in a GATC tetranucleotide of the bacteria.

1 **26.** (Original) The method of claim **23** wherein contacting bacteria with an
2 agent that alters the bacteria's native level of DNA methyltransferase activity results in altering
3 the bacteria's native level of methylation of adenine in a GANTC pentanucleotide of the
4 bacteria.

1 **27.** (Original) The method of claim **23** wherein the bacteria are pathogenic
2 bacteria that cause disease in a mammal.

1 **28.** (Original) The method of claim **23** wherein the agent reduces the DNA
2 methyltransferase activity.

1 **29.** (Original) The method of claim **28** wherein said agent reduces said activity
2 by binding to a DNA methyltransferase enzyme.

1 **30.** (Original) The method of claim **23** wherein said DNA methyltransferase is a
2 DNA adenine methyl transferase.

1 **31.** (Original) The method of claim **23** wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting DNA methyltransferase enzyme activity.

1 **32.** (Original) The method of claim **23** wherein said inhibiting DNA
2 methyltransferase activity results from inhibiting expression of DNA methyltransferase.

1 33. (Original) The method of claim 23 wherein said animal is a human patient.

1 34. (Original) The method of claim 23 wherein said microbe is a bacterium.

1 35. (Original) The method of claim 23 wherein said bacterium is a gram
2 positive bacterium.

1 36. (Original) The method of claim 23 wherein said gram positive bacterium is
2 a bacterium of *Staphylococcus* species, *Streptococcus* species, *Bacillus* species,
3 *Corynebacterium* species, *Clostridium* species, *Actinomyces* species, *Enterococcus* species, or
4 *Streptomyces* species.

1 37. (Original) The method of claim 23 wherein said bacterium is a gram
2 negative bacterium.

1 38. (Original) The method of claim 23 wherein said gram negative bacterium is
2 a bacterium of *Acinetobacter* species, *Neisseria* species, *Pseudomonas* species, *Brucella*
3 species, *Agrobacterium* species, *Bordetella* species, *Escherichia* species, *Shigella* species,
4 *Yersinia* species, *Salmonella* species, *Klebsiella* species, *Enterobacter* species, *Hemophilus*
5 species, *Pasteurella* species, *Streptobacillus* species, spirochetal species, *Campylobacter*
6 species, *Vibrio* species, or *Helicobacter* species.

1 39. (Original) The method of claim 23 wherein said bacterium is a bacterium of
2 species *Staphylococcus aureus*; *Staphylococcus saprophyticus*; *Streptococcus pyogenes*;
3 *Streptococcus agalactiae*; *Streptococcus pneumoniae*; *Enterococcus faecalis*; *Enterococcus*
4 *faecium*; *Bacillus anthracis*; *Acinetobacter baumannii*; *Corynebacterium diphtheria*; *Clostridium*
5 *perfringens*; *Clostridium botulinum*; *Clostridium tetani*; *Neisseria gonorrhoeae*; *Neisseria*
6 *meningitidis*; *Pseudomonas aeruginosa*; *Legionella pneumophila*; *Escherichia coli*; *Yersinia*
7 *pestis*; *Haemophilus influenzae*; *Helicobacter pylori*; *Campylobacter fetus*; *Vibrio cholerae*;
8 *Vibrio parahemolyticus*; *Trepomena pallidum*; *Actinomyces israelii*; *Rickettsia prowazekii*;
9 *Rickettsia rickettsii*; *Chlamydia trachomatis*; *Chlamydia psittaci*; *Brucella abortus*;
10 *Agrobacterium tumefaciens*; or *Francisella tularensis*.

1 **40.** (Original) A method of reducing bacterial virulence, comprising: contacting
2 bacteria with an agent that alters the bacteria's native level of DNA methyltransferase activity
3 thereby altering the bacteria's native level of methylation of adenine in a GATC tetranucleotide
4 of the bacteria, and thereby inhibiting virulence of the bacteria.

1 **41.** (Original) A method of treating a microbe-induced condition in a mammal
2 afflicted with said condition, comprising administering to said mammal a therapeutically
3 effective dose of a composition comprising a methyl transferase inhibitor and a
4 pharmacological excipient.

1 **42.** (Original) The method of claim **41** wherein said condition is caused by
2 *Agrobacterium* spp., *Rhizobium* spp. or *Helicobacter* spp.

1 **43.** (Original) The method of claim **41** wherein said condition is caused by a
2 member of the alpha subdivision of gram-negative bacteria.

1 **44.** (Original) The method of claim **41** wherein said mammal is a human.